KNOCKING DETECTION APPARATUS AND DETECTION METHOD

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a knocking detection apparatus and detection method that detect, with high precision, the presence of knocking and the timing thereof from changes in ion currents that are detected using spark plugs at the time of combustion of an internal combustion engine.

Enter substitute specification 4/17/06 JC

Description of the Related Art

It is known that ions are generated when fuel is combusted inside the cylinders of an internal combustion engine and that these ions can be measured as ion currents by disposing probes that apply a high voltage inside of the cylinders. Because knocking vibration components are superposed on the ion currents when knocking occurs in an internal combustion engine, the occurrence of knocking can be detected by detecting these vibration components. However, spark noise includes many frequency components superposed on the ion currents, end up being detected as vibration components of knocking, and are mistakenly determined to be knocking even if knocking is not actually occurring.

The following technologies have been disclosed as